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6 AN ANALYSIS OF FEMALE MARINE
RECRUIT ATTRITION

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AN ANALYSIS OF FEMALE MARINE RECRUIT ATTRITION

MANAGEMENT SUMMARY

What Is The Purpose Of The Study?

Attrition among first term enlisted personnel has risen in recent years. This fact, combined with a declining population in the primary recruiting age group, increased technical requirements, and the cost of attrition, dictate that a better understanding of the causes and costs of attrition be developed and counter-attrition strategies be evaluated. The USC research program, of which this report is one part, seeks to contribute to this effort.

Previous reports in this series have dealt exclusively with male enlistees. Since females are being increasingly utilized in the military, analyses of female attrition is warranted. The present report focuses on the recruit training attrition among female Marine Corps recruits who entered the military in August of 1977 and February of 1978.

How Was The Study Conducted?

Recruits were asked to complete a survey after they arrived at their recruit training location but before the actual start of training (pre-training survey) and again just prior to graduation (post-training survey). Individuals who left the Marine Corps during training were also given a survey (out-placement survey). The survey included measures of expectations, values, attraction for both the Marine and civilian roles, leadership, job content, group, satisfaction, and internal movivation. Demographic

information was obtained on individuals through the Marine Corps Recruit Accession Management System (RAMS) file.

What Work Role Outcomes Were Most and Least Desirable?

Prior to the start of recruit training, the female recruits were asked to rate 50 work role outcomes in terms of their desirability or undesirability. The most desirable outcomes included: learning new skills; an organization that keeps its promises; a job which gives me pride in myself; good insurance, medical, and financial benefits, and an exciting job. The least desirable outcomes included: a repetitive job with little responsibility; working closely with people who use drugs; a job involving physical violence; interference with marriage and family plans; and long separations from home and family.

How Did Graduates Differ From Attrites?

Female recruit training graduates and attrites were compared on the measures they completed prior to the start of recruit training. The pre-training measures which significantly differentiated female graduates from attrites included: intention to complete the enlistment (lower for attrites) and the difference between the military and civilian role forces (lower for attrites). Additionally, attrites exhibited higher expected leader consideration, lower growth need strength, and lower expected job autonomy. None of the demographic variables significantly differentiated attrites from graduates, perhaps due to the relatively low variance in these variables.

When the variables were subjected to a stepwise multiple regression analysis, the significant variables were expected leader consideration (attrites higher), job autonomy (attrites lower), skill variety (attrites

higher), growth need strength (attrites lower), and intention to complete the enlistment (attrites lower).

When hierarchical regression analysis was performed, it was found that the process model of attrition among females differed from that previously reported for males. Expected job skill variety, expected autonomy, expected leader consideration, and growth need strength were significant contributors to the overall female attrition prediction equation.

What Were the Reasons for Attrition?

The recruit training attrition rate for the females surveyed was 14.9%. The primary self-reported reasons for attrition were: lack of personal freedom, too much pressure, missed family and friends, rules and regulation too rigid. The major administratively recorded reasons for "unsuitability-personality" and "unsuitability-apathy, defective attitude, inability to expend effort constructively".

What Changes Were Observed During Recruit Training?

Changes during recruit training were examined for graduates (pre-training vs. post training survey) and for attrites (pre-training vs. outplacement survey). For the graduates, there were significant increases in intention to reenlist, chances of completing the enlistment and finding an acceptable civilian job, role attraction and role force for both military and civilian roles, leader consideration, unit proficiency, and growth need strength. Graduates also reported a significant decrease in skill variety.

The attrites exhibited a significant increase in perceived chances of finding an acceptable civilian job, and a significant decrease in military role force and attraction, leader consideration, skill variety, task significance, feedback from the job, satisfaction, unit attraction and proficiency.

What are the Implications of the Results?

The recruiting effort might benefit by studying the outcome desirability ratings since they indicate what recruits, prior to recruit training, value in a work role. Since intentions to complete the enlistment, expected leader consideration, expected job content, and growth need strength, as measured prior to recruit training, differentiate subsequent graduates and attrites, such variables may be useful in selection, counseling, and early recruit training processes. We continue to believe that realistic job previews can be one useful strategy, at both the recruiting and recruit training stages, for providing: accurate expectations (of e.g., leader style, job content, etc.), value clarification, coping skills, and credible role models (see Horner, et al., 1979). Further, identifying individuals with low predicted retention early in the process may provide an opportunity for coaching and counseling prior to actual recruit training. Finally, the outcome desirability, expectancy, and composite measures, along with the reasons for attrition data, should be useful to personnel policy and practice managers in designing a military role with greater attraction relative to the civilian role.

AN ANALYSIS OF FEMALE MARINE RECRUIT ATTRITION

This report presents an analysis of female recruit training attrition for two (1977 and 1978) U. S. Marine Corps cohorts. The analyses reported here represent a portion of a longitudinal study of individual and organizational causes and correlates of attrition among first term enlisted personnel. Earlier reports have dealt with pre-training values, expectations and intentions for a 1976 sample of Parris Island male recruits (Mobley, Hand, Logan, & Baker, 1977); an analysis of recruit training attrition for this sample (Mobley, Hand, & Logan, 1977; Mobley, Hand, Baker, & Meglino, 1978); a cross sectional analysis of this sample at advanced training and initial duty station (Griffeth, Meglino, Youngblood, & Mobley, 1979); and a cross-sectional and generalizability analysis among the 1976, 1977, and 1978 male cohorts from Parris Island and San Diego (Youngblood, Meglino, Mobley & Moore, 1980). The present report analyzes correlates of recruit training attrition among female enlisted personnel who entered Parris Island in August of 1977 and February of 1978. Since support for this study was obtained through developmental funds, this report is primarily directed toward the manpower community. Subsequent manuscripts will address concerns of the basic research community.

Problem

Attrition among first term enlisted military personnel is a problem of justifiable concern. Declining numbers of citizens in the primary recruiting age groups, an economy providing alternative employment opportunities, and

increasingly technologically sophisticated military manpower requirements serve to under-score the nature of the problem. (See e.g., Matthews, 1977; Sinaiko, 1977; Wharton EFA, 1979). Pre-end of active obligated service (EAOS) attrition places additional burden on the recruiting function which is already dealing with a diminished labor market. Pre-EAOS attrition represents a significant cost to the military (see e.g., Huck and Midlam, 1977) and a potentially significant cost to individuals who attrite (leave the organization). This does not imply that all attrition is bad. Attrition of certain individuals at certain times may be desirable from cost-effectiveness, unit-effectiveness, and individual perspectives.

Research on military attrition reviewed elsewhere (Hand, Griffeth, and Mobley, 1977) indicated that military attrition research: has placed relatively more emphasis on reenlistment than pre-EAOS attrition; has placed relatively more emphasis on individual variables (e.g., education, mental grade, etc.) than on organizational variables; has infrequently analyzed the possible joint or interactive contribution to attrition of individual and organizational variables; has infrequently utilized longitudinal designs; and has infrequently used experimental designs. Also, it should be noted that the shift to the volunteer concept raises issues of generalizability of pre-1973 research.

The present research program seeks to assess the contribution of individual and organizational variables to pre-EAOS attrition using multivariate analyses, a longitudinal design, and samples of enlistees recruited after the 1973 shift to an all volunteer military.

Increased utilization of females is one of several strategies for satisfying military manpower requirements. Thus, it is important to focus on the causes and correlates of female attrition and to compare the attrition process for males and females.

General Model

The general model serving as a basis for this study is a role choice model. (See Figure 1). This model is a variant of the generalized expectancy model of organizational behavior (Vroom, 1964; Campbell, Dunnette, Lawler, and Weick, 1970; Dachler and Mobley, 1973; Lawler, 1973). For reviews of the expectancy model, see Locke (1975) and Mitchell (1974). See Graen (1976) for a discussion of role processes, and Wiskoff (1977) for a multinational review of military career expectation research.

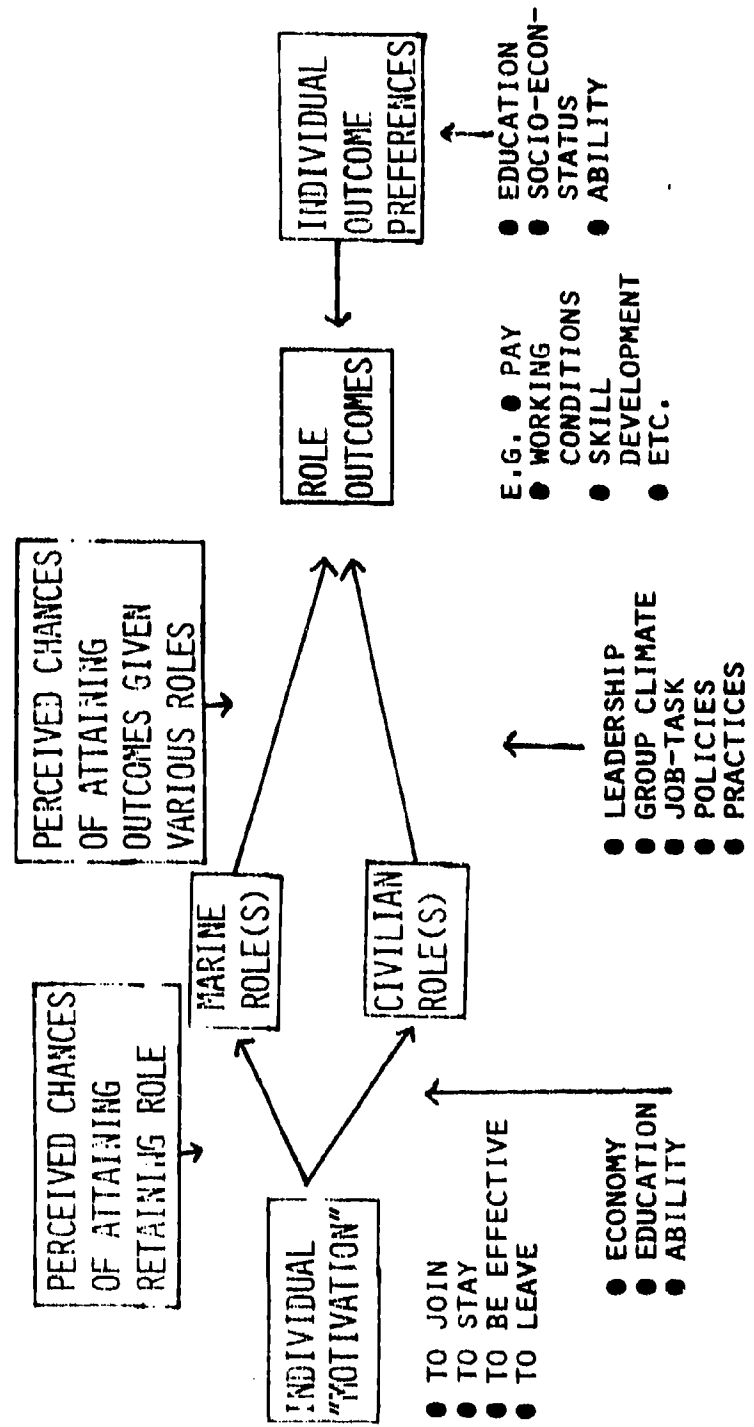
The role choice model used here addresses the following kinds of questions. Why do individuals choose a military role (in the present case an enlisted Marine Corps role) as opposed to a civilian role? Why do individuals choose to engage in effective role behavior (in the present case behavior which will not lead to pre-EAOS discharge)? Why do individuals choose to reenlist or not reenlist?

The model suggests that role choice can, in part, be understood and predicted by knowledge of:

- a) The value individuals place on various role outcomes or consequences, e.g., pay, learning new skills, travel, etc.;
- b) the individual's perceived expectancy that a given role will or will not lead to these various outcomes or consequences; i.e., role-outcome expectancy;
- c) the individual's expectancy regarding being able to attain the role, i.e., role expectancy, e.g., perceived chances of finding an acceptable civilian role or perceived chances of being a "successful" Marine.

As will be described in the measures sections of this report these variables can be combined in various ways to generate, for each individual, role

FIGURE 1
A GENERALIZED MODEL OF MARINE
ROLE ATTRACTION



attraction indexes for both civilian and Marine roles. The individual variables and the various composite role attraction indexes can then be evaluated as correlates of attrition.

Since the model is a choice model, it is important to assess the individual's perceptions of both the Marine role and alternative (civilian) roles. An individual's withdrawal from the Marine Corps may be related to more than simply his/her perception and evaluation of the Marine Corps role. Such withdrawal also may be related to the desirability and availability of alternative non-military roles as evaluated by the individual. The present research assess and tracks the individual's attraction to both the military and civilian roles.

Individual level variables such as education, age, mental grade, etc., have been shown to be related to pre-EAOS attrition (Matthews, 1977; Lockman, 1975; Sands, 1976). In the present research program, such individual level variables as age, education, mental grade, and marital status are analyzed in terms of their relation to: values, expectancies, and role attraction; changes in values, expectancies, and role attraction; perceived organizational variables; and to attrition either directly or in combination with other individual and organizational variables.

Based in part on the Mobley, Griffeth, Hand, and Meglino (1979), Hand, et al. (1977), and Porter and Steers (1973) reviews of variables related to withdrawal (attrition) behavior, the study includes measures of leadership, job content, and group climate. These organizational variables, as perceived by the individual, are assessed in terms of their direct relationship to attrition and to the various components of the role choice model.

It is assumed that outcome values, role-outcome expectancies, and role expectancies are learned and are modified by experience. One advantage of

the longitudinal design is that it affords the opportunity to track the learning-socialization process.

Summarizing the basic role model:

- a) it is a choice model which considers perceptions and evaluations of both the Marine role and alternative civilian roles;
- b) it considers both individual and organizational variables;
- c) combined with a longitudinal design, it permits assessment of the learning-socialization process.

It is believed that use of this conceptual model will contribute not only to prediction of attrition from individual and organizational variables, but also to the understanding of the attrition process.

The Present Report

This report examines recruit training attrition among 1977 and 1978 cohorts of female recruits. The generalizability of results previously obtained for samples of male Marine Corps recruits from 1976, 1977, and 1978 also are examined. The results for the male analyses, summarized in an earlier technical report in this series (Youngblood, et al., 1980), found a number of significant pre-recruit training differences between subsequent recruit training graduates and attrites. These differences were in the areas of intentions, role expectations, role attraction, expected leadership, expected job content, expectations regarding an individual's group and, expected overall satisfaction. Differences on these measures were also found between pre and post-training measures for graduates and between pre and out-placement measures for attrites. Regression analyses were also reported that examined the prediction of recruit training attrition from pre-training survey and demographic information. The comparability of

regression results across male cohorts was also reported (Youngblood, et al., 1980).

Since the previous report examined attrition for only male recruit cohorts, similar analyses for female recruits are warranted. The present report examines the results of these analyses for female recruits sampled in 1977 and 1978.

Method

Basic Design

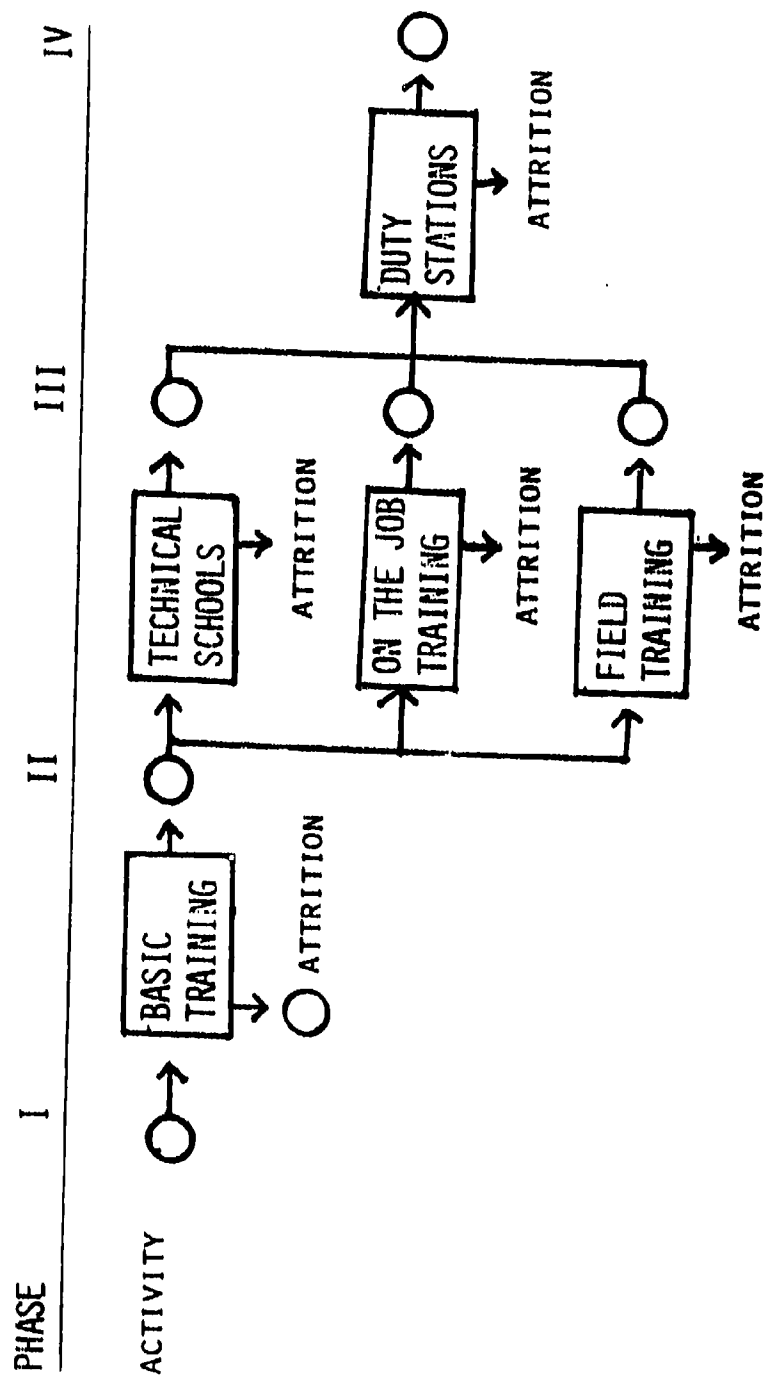
The basic longitudinal design is summarized in Figure 2. Survey measures were administered at the beginning of recruit training (pre-training measure), again at the end of recruit training (post-training measure), or at the time of recruit training attrition (out-placement measure). (Additional measures were given near the end of advanced training and at subsequent duty station for the 1976 primary longitudinal cohort.)

The portion of the longitudinal study reported here deals with the pre-training measure administered at the beginning of recruit training (Phase I), the post-training measure (Phase II), the out-placement measure, and demographic data from the Marine Corps Recruit Accession Management System (RAMS) file.

Sample

Table 1 summarizes the recruit cohorts in the total study. Table 2 reports the sample size and recruit training attrition in each cohort. The two cohorts of primary interest in the present report are the female recruits who entered Parris Island in August of 1977 and February of 1978. The Marine Corps conducts all recruit training for females at the Parris Island Recruit Depot, thus, there are no San Diego female samples.

FIGURE 2
BASIC LONGITUDINAL DESIGN



○-ADMINISTRATION OF
SURVEY INSTRUMENTS

TABLE 1
RECRUIT COHORTS BY DATE OF ACCESSION, LOCATION, AND SEX

August, 1976	Male Recruits, Parris Island (Primary longitudinal cohort)
July, 1977	Male Recruits, Parris Island (Temporal generalizability analysis)
July, 1977	Male Recruits, San Diego (Temporal and location generalizability analysis)
*August, 1977	Female Recruits, Parris Island (Sex generalizability analysis)
January, 1978	Male Recruits, San Diego (Temporal and location generalizability analysis)
*February, 1978	Female Recruits, Parris Island (Sex generalizability analysis)
April, 1978	Male Recruits, Parris Island (PIRATE realistic job preview experimental sample)

*Focus of the present report.

TABLE 2
SAMPLE SIZES AND RECRUIT TRAINING ATTRITION BY COHORT

Cohort	Total Sample ^a N	Attrite During Recruit Training N %
August 1976 Parris Island Males	1520	176 12
July 1977 Parris Island Males	482	47 10
July 1977 San Diego Males	480	31 6
*August 1977 Parris Island Females	85	16 19
January 1978 San Diego Males	381	52 12
*February 1978 Parris Island Females	90	10 11
April 1978 Parris Island Males (PIRATE)	678 ^b	93 14

Source: M79-1

^aSample size based on number of recruits who were non-reservists with matched RAMS demographic data and survey data with three or less consistency errors on the pre-recruit training survey.

^bThe PIRATE cohort was used to experimentally test a realistic job preview. Different survey measures were used for this experiment (see Horner, Mobley, & Meglino, 1979)

*Focus of the present report.

Measures

The measures used in this study are summarized in Figure 3. The individual level variables of age, mental score, education, race, marital status, and number of dependents were collected from the RAMS computer file.

The component measures of the role choice model were collected via survey. These components include the following:

- a) Enlisted personnel were presented a list of 50 role outcomes and asked to rate them on a +2 to -2 scale of desirability - undesirability. The role outcomes, generated from previous research, interviews, and pilot tests, included such things as "learning career skills," "separation from family," "Responsibility," etc. The term "outcome" refers to rewards, costs, and conditions possibly associated with a job or role.
- b) Role-outcome expectancies: Marine: for each of the 50 role outcomes, enlisted personnel were asked to rate, on a scale of 0 to 1.0, their chances of attaining that outcome by being a Marine.
- c) Role-outcome expectancies: Civilian: for each of the 50 role outcomes, enlisted personnel were asked to rate, on a scale of 0 to 1.0, their chances of attaining that outcome by being in a civilian job.
- d) Role-expectancy: Marine: enlisted personnel were asked to rate their chances of successfully completing their first term enlistment on a scale of 0 to 1.0.
- e) Role-expectancy: Civilian: enlisted personnel were asked to rate their chances of finding an acceptable civilian job at the present time if that were their goal, on a scale of 0 to 1.0.

Based on these component ratings, several composite index variables were generated for each individual.

- f) Role attraction: Marine: is the sum of the cross-products of the desirability ratings of the 50 role outcomes and Marine role-outcome expectancy ratings.
- g) Role attraction: Civilian: is the sum of the cross-products of the desirability ratings of the 50 role outcome and civilian role-outcome expectancy ratings.
- h) Role Force: Marine: is the Marine role attraction index above

Figure 3

MEASURES

<u>INDIVIDUAL</u>	<u>ORGANIZATIONAL</u>	<u>CRITERIA</u>
<ul style="list-style-type: none"> ● AGE ● MENTAL GRADE ● EDUCATION ● RACE ● DEPENDENTS ● ROLE ATTRACTION- ● MARINE ● ROLE ATTRACTION- ● CIVILIAN 	<ul style="list-style-type: none"> ● LEADERSHIP (LBDQ) <ul style="list-style-type: none"> - CONSIDERATION - STRUCTURE ● GROUP (GDDQ) <ul style="list-style-type: none"> - HOMOGENEITY - PERMEABILITY - STABILITY - HEDONIC TONE - PLUS 9 OTHER ● DIMENSIONS <ul style="list-style-type: none"> - JOB (JDS) - SKILL VARIETY - TASK SIGNIFICANCE - FEEDBACK - PLUS 7 OTHER 	<ul style="list-style-type: none"> ● INTENTIONS <ul style="list-style-type: none"> - EAOS - RE-ENLISTMENT ● PRE-EAOS ATTRITION <ul style="list-style-type: none"> - ADMINISTRATIVE - REASONS - SELF-REPORT ● REASONS <ul style="list-style-type: none"> - PERFORMANCE - SELF-REPORT - MASTER FILE - INDIVIDUAL RECRUIT - TRAINING PERFORMANCE

weighted by expectancy of successfully completing the first term enlistment.

- 1) Role Force: Civilian: is the civilian role attraction index above, weighted by expectancy of finding an acceptable civilian job.

The organizational level variables, as perceived by enlisted personnel, were assessed with standardized survey measures. The Leader Behavior Description Questionnaire (Stogdill and Coons, 1957) assesses perceived leader "Consideration" and "Initiating Structure." Two group sociometric measures, attraction and proficiency (Libo, 1953), also were included. The short version of Job Diagnostic Survey (JDS) (Hackman and Oldham, 1974, 1975) was also used. The JDS assesses various dimensions of the perceived job content, e.g., skill variety, task significance, feedback, task identity, task autonomy from the job. This measure also includes job satisfaction scales and individual level measures of internal motivation and growth need or the desire to obtain growth satisfaction from one's work. A complete list and definitions of the dimensions of the organizational measures is given in the Appendix of an earlier report (Mobley, et al., 1977).

In the pre-recruit training administration of the survey, respondents were instructed to respond to the leadership, group, and job content measures in terms of what they expected (since they had not yet been exposed to military life). Administration of subsequent surveys called for a descriptive rather than expected response set.

Criteria data collected on all surveys included behavioral intentions to complete first term enlistment, behavioral intentions to reenlist, and performance goals. For attrites, self reported ratings of their reasons for attrition were included. Criteria data collected from the Marine Corps Headquarters master file included administrative reasons for attrition and re-cycle information.

Procedure

The survey measures were pilot tested twice: first using enlisted personnel assigned to the University of South Carolina NROTC unit and second, using a platoon of July, 1976 Parris Island recruits. Based on the pilot tests, instructions were clarified, ambiguous items were clarified or deleted, minimal variance items were deleted, and several new questions were added based on suggestions of pilot study subjects.

The pre-training measures were administered as a part of administrative processing during the first few days after arrival at the recruit depot. The survey was administered by the University researchers to groups of two platoons at a time. Recruits were read the appropriate freedom of information passage (which was also included in the survey booklet); informed that participation was voluntary; and that individual responses were confidential. Survey responses were made on machine readable answer sheets. ID numbers were requested for the purpose of matching subsequent administrations of the survey and matching with the RAMS and master file. All officers, non-commissioned officers, and drill instructors remained out of the room during administration of the survey.

The post-training measure was administered during the week of graduation and in the same manner as the pre-training measure. Re-cycled recruits who did not graduate with their original platoon were given the post-training measure on an individual basis during the week of their graduation if they graduated within four weeks after their original platoon. Attrites were given the out-placement survey in the few days before their separation. The same survey was used for pre-training, post-training, and out-placement, with the exception that the out-placement survey included additional questions on self-reported reasons for attrition.

Results

An earlier report (Mobley, et al., 1978) addressed significant differences between graduates and attitudes both prior to training, and at the time of either graduation or attrition in the primary 1976 male cohort. A subsequent report (Youngblood, et al., 1980) focused upon the generalizability of such results across the four separate male samples. The present report provides a descriptive analysis of the two female cohorts and a comparison of male and female results in terms of the attrition process model.

Demographic and Attrition Comparisons

Table 3 provides a demographic description and comparison of the 1977 and 1978 female cohorts. The 1978 sample was significantly older and had significantly more minorities. For the other demographic variables the two samples were not statistically different. The relatively high level of education in both samples reflects the high school graduation requirement for female Marine recruits.

The recruit training attrition rates for the 1977 and 1978 female cohorts were 18.8% and 11.1% respectively. The chi-square test of attrition by year indicated a non-significant relation.

Pre-Recruit Training and Post-Recruit Training Cohort Comparisons

Table 4 compares the two female cohorts on the summary variables from the pre-recruit training survey. Most differences were not statistically significant although the 1978 group saw the civilian role as more attractive, expected more feedback from the job, expected lower unit attraction and proficiency, and exhibited higher internal motivation. More will be said about these summary variables in a later section when their relation to

TABLE 3
DEMOGRAPHIC AND ATTRITION COMPARISON OF 1977 AND 1978 FEMALE COHORTS

	1977		1978		$t^a/\chi^2{}^b$	p
	Mean	SD	Mean	SD		
Education (years)	12.05	.21	12.12	.45	-1.41 ^a	ns
Mental (AFQT)	75.02	10.66	72.99	11.29	1.22 ^a	ns
Age (years)	19.30	1.79	19.92	2.00	-2.17 ^a	.03
Race (% Caucasian)	94.1		81.1		5.60 ^b	.02
Marital Status (% married)	4.7		2.2		0.24 ^b	ns
Attrition (% attrite)	18.8		11.1		1.49 ^b	ns
N	85		90			

Source: M79-5,6: Non-reservist female recruits who completed the pre-recruit training survey with 3 or fewer consistency errors and matched with demographic tape.

TABLE 4
COMPARISON OF PRE-RECRUIT TRAINING SURVEY RESPONSES
OF 1977 AND 1978 FEMALE RECRUIT COHORTS

VARIABLE	1977 FEMALES			1978 FEMALES			DIFFERENCE	
	MEAN	SD	N	MEAN	SD	N	t	p
<u>Intentions</u>								
To Complete	4.56	.79	85	4.38	.92	90	1.44	ns
To Reenlist	3.02	.99	85	3.12	.85	90	-0.71	ns
<u>Expectancy</u>								
Chances of Completing	.88	.20	85	.86	.21	90	0.77	ns
Chances of Finding Civilian Job	.41	.29	85	.45	.29	90	-0.99	ns
<u>Role Attraction, Force</u>								
Marine Role Attraction	36.20	17.12	85	41.03	15.94	90	-1.93	ns
Civilian Role Attraction	20.70	11.08	85	24.01	13.37	90	-2.11	.04
Marine Role Force	33.50	18.37	85	36.25	18.30	90	-0.99	ns
Civilian Role Force	9.54	10.12	85	12.22	12.41	90	-1.56	ns
Difference: Role Force	23.96	20.34	85	24.03	20.49	90	-0.02	ns
Difference: Role Attraction	16.13	16.63	85	17.03	16.08	90	-0.36	ns
<u>Leadership (LBDQ)</u>								
Leader Consideration	43.93	10.55	83	43.77	10.76	88	0.10	ns
Leader Structure	65.01	6.26	82	65.26	6.96	87	-0.25	ns
<u>Job (JDS)</u>								
Skill Variety	3.60	0.69	85	3.60	0.64	90	0.00	ns
Task Identity	3.28	0.65	85	3.31	0.71	90	0.00	ns
Task Significance	3.83	0.73	83	3.96	0.76	89	-1.19	ns
Autonomy	3.05	0.79	83	2.90	0.83	90	1.26	ns
Feedback From Job	3.61	0.57	83	3.81	0.69	90	-2.08	.04
Feedback From Others	3.41	0.71	85	3.64	0.83	90	-1.95	ns
Dealing With Others	3.87	0.57	85	4.17	0.63	90	-3.27	.01
<u>Satisfaction, Individual Differences</u>								
Expected Overall Satisfaction	3.69	0.75	83	3.55	0.76	89	1.25	ns
Internal Motivation	4.05	0.67	85	4.27	0.59	89	-2.35	.02
Growth Need	4.03	0.72	85	4.17	0.70	89	-1.37	ns
<u>Sociometric</u>								
Unit Attraction	11.69	1.63	85	11.03	1.65	90	2.66	.01
Unit Proficiency	7.56	1.14	84	7.14	1.32	90	2.21	.03

Source M79-5. Non-reservist female recruits who took pre-recruit training survey with three or fewer consistency errors and matched with demographic tape.

attrition is evaluated. The point to be made here is that there were relatively few pre-recruit training differences between the two female samples.

Table 5 provides a comparison of the two female samples on the end-of-recruit training summary variables. Again there were relatively few significant differences. The 1978 female sample did exhibit lower attraction to the Marine role, had a higher expectancy of finding a civilian job, saw higher leader consideration and lower unit proficiency.

Given the relatively small sample sizes and the general similarity in demographic, pre-recruit training, post-recruit training variables, and the non-significant difference in attrition rates, the two samples were combined to form one female sample. Subsequent analyses are based on this combined sample. The recruit training attrition rate for the combined female sample was 14.9%.

TABLE 5
COMPARISON OF POST-RECRUIT TRAINING SURVEY RESPONSES
OF 1977 AND 1978 FEMALE RECRUIT COHORTS

VARIABLE	1977 FEMALES			1978 FEMALES			DIFFERENCE	
	MEAN	SD	N	MEAN	SD	N	t	p
<u>Intentions</u>								
To Complete	4.60	.70	75	4.60	.86	78	-.02	ns
To Reenlist	3.45	1.01	74	3.42	.99	77	.19	ns
<u>Expectancy</u>								
Chances of Completing	.92	.17	75	.94	.17	78	-.82	ns
Chances of Finding Civilian Job	.45	.28	75	.57	.30	77	-2.53	.02
<u>Role Attraction, Force</u>								
Marine Role Attraction	46.62	15.11	75	40.83	17.99	79	2.16	.04
Civilian Role Attraction	26.34	10.96	75	25.42	16.63	79	.40	ns
Marine Role Force	43.48	17.02	75	40.51	17.57	78	1.06	ns
Civilian Role Force	13.02	10.90	75	15.63	15.54	77	-1.20	ns
Difference: Role Force	30.47	17.77	75	24.64	19.52	77	1.92	ns
Difference: Role Attraction	20.28	14.10	75	15.41	16.87	79	1.94	ns
<u>Leadership (LBDQ)</u>								
Leader Consideration	44.29	11.23	73	49.52	10.00	73	-2.97	.01
Leader Structure	65.15	6.10	75	63.69	8.61	75	1.19	ns
<u>Job (JDS)</u>								
Skill Variety	3.36	.91	74	3.27	.74	77	.71	ns
Task Identity	3.34	.72	75	3.22	.59	76	1.11	ns
Task Significance	3.83	.84	75	3.79	.79	78	.28	ns
Autonomy	3.02	.80	75	3.11	.60	78	-.75	ns
Feedback From Job	3.69	.73	75	3.71	.74	78	-.14	ns
Feedback From Others	3.68	.72	75	3.66	.74	75	.19	ns
Dealing With Others	4.05	.55	75	4.21	.58	78	-1.70	ns
<u>Satisfaction, Individual Differences</u>								
Expected Overall Satisfaction	3.77	.73	74	3.65	.75	79	.97	ns
Internal Motivation	4.30	.64	74	4.32	.60	78	-.23	ns
Growth Need	4.47	.49	75	4.33	.67	76	1.50	ns
<u>Sociometric</u>								
Unit Attraction	11.37	2.03	75	11.17	1.89	77	.64	ns
Unit Proficiency	32.44	6.37	75	30.04	8.28	79	2.01	.05

Source M79-5. Non-reservist females who completed the post-recruit training survey with three or fewer consistency errors and matched with demographic tape.

Role Outcome and Expectancy Ratings

The survey asked recruits to rate 50 role outcomes on a scale of desirability-undesirability ranging from +2.0 to -2.0. The outcomes were then rated again in terms of expectancy of attaining each outcome by being in a Marine role and expectancy of attaining each outcome by being in a civilian role. These expectancy ratings were on a scale of zero (no chance of attaining) to 1.0 (100% of attaining). The mean outcome desirability and expectancy ratings for the total female sample are presented in Table 6.

The outcomes rated by female recruits as most desirable were:

- Learning new skills that will help me later in life.
- An organization that fulfills its promises to you.
- A job which gives me pride in myself.
- Good insurance and medical benefits.
- An exciting job.
- Good financial benefits.

The outcomes seen by the female recruits as least desirable were:

- A repetitive job with little responsibility.
- Working closely with people who use drugs.
- A job involving potential physical violence.
- Interference with marriage/family plans.
- Long separations from home and family.

It is interesting to note that the outcomes rated most and least desirable by the females are similar to the ratings given by males in the primary longitudinal sample (Mobley, et al., 1977). The rank order correlation between the male and female outcome desirability ratings was .92.

The expectancy ratings, also given in Table 6, show the female recruits' perceived chances of attaining each outcome by being in either a Marine or

TABLE 6

MEAN ROLE OUTCOME AND ROLE EXPECTANCY RATINGS FOR
PRE-RECRUIT TRAINING FEMALE MARINE RECRUITS

Outcomes	Outcome Desirability (1)		Chances of Attainment Marine (2)	Chances of Attainment Civilian (2)
	Rank	Mean	Mean	Mean
1. Being part of an effective team	21	1.34	.90	.48
2. Respect from friends and relatives	10.5	1.47	.86	.57
3. Learning new skills	13.5	1.41	.93	.50
4. Having an exciting job	5.5	1.54	.78	.42
5. Having a dangerous job	44	-0.34	.41	.24
6. Being in a job where discipline is strictly enforced	42	-0.01	.86	.35
7. A job that pays well	8	1.51	.79	.43
8. Long separations from home and family	45	-0.48	.71	.21
9. A job that is important to the country	36	0.71	.81	.25
10. Fair treatment from superiors	17	1.39	.71	.50
11. Working with people I like	19	1.38	.69	.57
12. A job where good performance is recognized	12	1.42	.82	.54
13. A job that includes extensive travel	35	0.81	.71	.21
14. A job where duties and orders are clearly defined	32	1.11	.86	.50
15. A job which gives me pride in myself	3	1.59	.90	.45
16. A job where poor performance is penalized	41	0.30	.81	.51
17. Sufficient leisure time to pursue your own interests	10.5	1.47	.60	.69
18. A job with little responsibility	46	-0.82	.18	.53
19. Superiors who are concerned about me as an individual	27	1.25	.60	.47
20. Learning skills that will help me in later life	1	1.64	.85	.46
21. Good financial benefits	5.5	1.54	.86	.40
22. Being in control of your own activities	28	1.24	.55	.61
23. Freedom to make your own decisions	25	1.30	.54	.61
24. Doing a real man's job	38	0.51	.62	.39

TABLE 6 (Con't)

Outcomes	Outcome Desirability (1)		Chances of Attainment Marine (2)	Chances of Attainment Civilian (2)
	Rank	Mean	Mean	Mean
25. Being part of a well-disciplined organization	34	1.01	.93	.37
26. Being part of an efficient organization	22	1.33	.90	.46
27. Physically demanding work	40	0.33	.63	.44
28. Specific kinds of training I want	31	1.20	.72	.34
29. Work under good leadership	17	1.39	.84	.48
30. Working closely with people of another race	37	0.53	.81	.55
31. Being in control of your own life	9	1.49	.55	.73
32. A high degree of job security	20	1.37	.84	.36
33. Good insurance and medical benefits	4	1.58	.95	.36
34. Interferes with marriage/family plans	47	-0.86	.47	.27
35. An organization flexible enough to meet my changing needs	33	1.03	.56	.41
36. Having clear work goals	24	1.31	.80	.51
37. A high degree of personal freedom	29	1.23	.64	.63
38. A job where you can "get your head together"	30	1.21	.71	.41
39. A job where I can become a real woman	39	0.50	.64	.35
40. Getting away from a bad home situation	43	-0.11	.52	.25
41. A job involving potential physical violence	48	-1.00	.37	.24
42. Training opportunities that will contribute to my long term career plans	15	1.40	.82	.36
43. A chance to see different parts of the country or the world	13.5	1.41	.78	.19
44. Making a lot of new friends	31	1.32	.91	.54
45. An organization that fulfills its promises to you	2	1.63	.77	.43
46. Having a leader who is consistent	26	1.29	.80	.49
47. Working closely with people who use drugs	49	-1.03	.24	.52
48. Having a leader who is well qualified	7	1.53	.86	.53
49. A repetitive job with little responsibility	50	-1.12	.25	.58
50. Rapid promotional opportunities	17	1.39	.68	.31

Source: M79-9

N=175 non-reservist female recruits with three or fewer survey consistency errors and matched with demographic tape.

CODING NOTE:

(1) Outcome Desirability Scale: -2.0 = very undesirable to 2.0 = very desirable.

(2) Outcome Expectancy Scale: 0 = No chance of attainment to 1.0 = 100% chance of attainment.

civilian role. If the Marine role is seen as more likely to lead to desirable outcomes and less likely to lead to undesirable outcomes, as contrasted to a civilian role, then the Marine role will be relatively more attractive.

The results reported in Table 6 should be of interest to recruiters, personnel policy managers, and those responsible for recruit training since the attraction of the Marine role relative to the civilian role is relevant to recruiting and attrition. Although little can be done to change expectancies regarding the civilian role, expectations regarding the military role may be altered by accurate and realistic recruiting information, realistic previews, etc. Further, policies and practices, to the extent feasible and useful, could be modified to enhance attainment of outcomes seen as desirable, e.g., skill learning, and minimize outcomes seen as undesirable, e.g., repetitive job with little responsibility.

Intentions and Expectancy of Completing Enlistment

Previous research has shown that behavioral expectancies and behavioral intentions are important predictors of subsequent behavior (Mobley et al., 1979). In the present study, females were asked, prior to the start of recruit training, their intentions to complete their enlistment, intentions to reenlist, expectancy (chances) of being successful in the Marine role, and expectancy (chances) of finding an acceptable civilian role.

Table 7 presents the percentage responses for these questions and their correlation with attrition. As can be seen, 14.3% of the females indicated, before recruit training, they were either uncertain, probably did not, or definitely did not intend to complete their enlistment. Some 31.4% indicated they probably or definitely intended to reenlist. Turning to

TABLE 7
BEHAVIORAL INTENTIONS AND EXPECTANCIES OF COMPLETING ENLISTMENT

<u>INTENTIONS</u>			
I intend to complete my enlistment:		I intend to reenlist:	
	%		%
Definitely Not	1.14	Definitely Not	6.29
Probably Not	10.86	Probably Not	15.43
Uncertain	2.29	Uncertain	46.86
Probably Yes	20.00	Probably Yes	27.43
Definitely Yes	65.71	Definitely Yes	4.00
Correlation with Attrition:	-.21**	Correlation with Attrition:	-.12
<u>ROLE EXPECTATIONS</u>			
Chances of completing my enlistment:		Chances of finding an acceptable civilian job:	
	%		%
No Chance	1.14	No Chance	12.57
25% Chance	1.14	25% Chance	36.57
50% Chance	11.43	50% Chance	28.00
75% Chance	21.14	75% Chance	11.43
100% Chance	65.14	100% Chance	11.43
Correlation with Attrition:	-.20**	Correlation with Attrition:	.06

Source: M79-4

N=175 Non-reservist female recruits with 3 or fewer consistency errors on the pre-recruit training survey and matched with demographic tape.

*p < .05

**p < .01

expectations, 13.7% of the female recruits indicated they had a 50% or less chance of completing their enlistment. Some 77.1% indicated they had a 50% or less chance of attaining an acceptable civilian role.

Since one's behavioral intention and expectation of completing an enlistment are significantly related to attrition, steps could be taken to pre-screen those with low intentions and expectations. It also appears appropriate to increase such intentions and expectations through, e.g., counseling, realistic previews, and/or training (see Horner, et al., 1979).

Reliability of Leadership, Job Content, Groups, and Individual Measures

As noted in the Measures section of this report, the survey included a number of measures dealing with leadership, job content, and group variables. The individual level variables of growth need strength and internal motivation also were measured. Subsequent sections will analyze how these variables and the role attraction, expectancy, and intention variables relate to attrition and change over recruit training. Before proceeding, however, the reliability of the summary scores to be used are examined.

Table 8 presents the reliability estimates (coefficient alpha) for the leadership, job content, group, and individual female pre- and post-recruit training measures. The leadership and growth need measures exhibited acceptable internal consistency. The group and job content measures reflected relatively lower internal consistency. The "expected" response set on the pre-recruit training survey, the relatively few number of items on the subscales other than leadership, and relatively low variance on some items contribute to the lack of stronger reliability estimates. The reliability estimates generally increased from the pre- to post-recruit training measures and may in part be due to moving from an expected to a descriptive response set.

TABLE 8
RELIABILITY ESTIMATES FOR SUMMARY VARIABLES

Variable	Reliability Estimates (alpha)	
	Pre-Recruit Training	Post-Recruit Training
<u>Leadership</u>		
Consideration	.86	.88
Structure	.80	.81
<u>Job Content</u>		
Skill Variety	.31	.67
Task Identity	.33	.42
Task Significance	.51	.69
Autonomy	.57	.53
Feedback for Job	.39	.70
Feedback from Others	.64	.70
Dealing with Others	.46	.29
<u>Work Group</u>		
Attraction	.64	.73
Proficiency	.67	.67
<u>Overall Satisfaction</u>	.69	.68
<u>Individual</u>		
Growth Need Strength	.83	.78
Internal Motivation	.66	.68
N	153	124

Source: M79-11

Non-reservist female recruits who had 3 or fewer consistency errors on the survey and matched with the demographic tape. Casewise deletion used.

Pre-Recruit Training Differences Between Subsequent Graduates and Attrites

Up to this point, the results have provided primarily descriptive data on the female cohorts. This section presents bivariate analyses of the pre-recruit training variable differences between those who subsequently complete recruit training and those who became recruit training attrites.

Demographic variables. Table 9 summarizes the mean differences between recruit training graduates and attrites on the demographic variables. There were no significant differences. This finding is in contrast to literature on male military personnel (Hand, et al., 1977) and the results reported earlier for male recruits (Youngblood, et al., 1980) where, with some exceptions, older, less educated recruits, and those with lower mental scores had higher attrition. It is probable that the higher means and lower variances exhibited by females account for this difference. This is, of course, related to the female selection criteria being used by the Marine Corps.

Survey measures. The mean differences between female graduates and attrites on the pre-recruit training survey summary measures are presented in Table 10. Consistent with our previous research on male cohorts (Youngblood, et al., 1980) and the literature on turnover (Mobley, et al., 1979) behavioral intentions to complete the enlistment significantly differentiated subsequent graduates from attrites. The difference between subsequent graduates and attrites in expectancy of completing the enlistment reached the $p < .07$ level of significance.

As noted in the Measures section, role force is a composite index of role outcome desirabilities weighted by expectancy of attaining each outcome in a military or civilian role (see Table 6). These cross-products are summed to form the role attraction index which, when weighted by expectancy of attaining or staying in the role, forms the role force index for the civilian and military role. The analysis of pre-recruit training role

TABLE 9
DEMOGRAPHIC COMPARISON OF FEMALE RECRUIT TRAINING
GRADUATES AND ATTRITES

Variable	Attrites			Graduates			t^a/χ^2^b	p
	Mean	SD	N	Mean	SD	N		
Education (years)	12.04	0.20	26	12.09	0.37	149	-1.13 ^a	ns
Mental (AFQT)	71.85	12.16	26	74.35	10.79	149	-1.07 ^a	ns
Age (years)	19.33	1.69	26	19.67	1.96	149	-.084 ^a	ns
Marital Status (% married)	0.038		26	0.034		149	0.01 ^b	ns
Race (% caucasian)	0.846		26	0.879		149	0.02 ^b	ns

Source: M79-6,10: Non-reservist females who completed pre-recruit training survey with three or fewer consistency errors and matched with demo tape.

a) two-tailed t-tests.

b) corrected chi-square for categorical variables.

TABLE 10
COMPARISON OF SUBSEQUENT GRADUATES AND ATTRITES ON
PRE-RECRUIT TRAINING VARIABLES

VARIABLE	ATTRITES		GRADUATES		DIFFERENCE	
	MEAN	SD	MEAN	SD	t ^a	p
Intentions						
To Complete	4.04	1.18	4.54	0.78	2.10	.05
To Reenlist	2.81	1.10	3.12	0.88	1.62	ns
Expectancy						
Chances of Completing	0.77	0.31	0.89	0.18	1.91	.07
Chances of Finding Civilian Job	0.47	0.31	0.42	0.29	-0.75	ns
Role Attraction, Force						
Marine Role Attraction	35.80	16.34	39.19	16.71	0.96	ns
Civilian Role Attraction	23.53	14.50	21.84	12.07	-0.64	ns
Marine Role Force	29.96	19.71	35.78	18.01	1.50	ns
Civilian Role Force	13.47	13.96	10.48	10.89	-1.24	ns
Difference: Role Force	16.49	24.45	25.31	19.37	2.06	.04
Leadership (LBDQ)						
Leader Consideration	47.88	10.76	43.12	10.48	-2.13	.04
Leader Structure	63.29	6.86	65.45	6.54	1.49	ns
Job (JDS)						
Skill Variety	3.68	0.70	3.59	0.66	-0.66	ns
Task Identity	3.27	0.77	3.30	0.66	0.23	ns
Task Significance	3.80	0.69	3.91	0.76	0.70	ns
Autonomy	2.64	0.74	3.03	0.82	2.26	.03
Feedback From Job	3.76	0.43	3.71	0.67	-0.38	ns
Feedback From Others	3.47	0.73	3.53	0.79	0.36	ns
Dealing With Others	4.11	0.57	4.01	0.62	-0.79	ns
Satisfaction, Individual Differences						
Satisfaction	3.53	0.80	3.64	0.75	0.62	ns
Internal Motivation	3.96	0.70	4.20	0.63	1.77	ns
Growth Need	3.85	0.74	4.14	0.70	1.94	.06
Sociometric						
Unit Attraction	11.42	1.81	11.34	1.65	-0.23	ns
Unit Proficiency	7.69	1.32	7.28	1.24	-1.54	ns

Source: M79-8. Non-reservist females who completed pre-recruit training survey with three or fewer consistency errors and matched with demographic tape.

a) t-tests based on pooled variance except where heterogeneity of variance is indicated. All tests are two-tailed.

attraction and role force for both the Marine and civilian role (Table 10) revealed no significant differences between subsequent graduates and attrites. However, the difference between Marine and civilian role force was significantly higher for graduates as contrasted with attrites. The latter result is consistent with our conceptual model and with findings for three of the four male cohorts (Youngblood, et al., 1980).

The only other significant differences evident in the Table 10 analysis were: the higher expected leader consideration, the lower expected job autonomy, and the lower growth need strength exhibited by attrites compared to graduates.

It is important to recall that the measures reported in Table 10 are based on pre-recruit training surveys. Subsequent sections of this report will deal with the post-recruit training and attrite surveys. First, however, the multivariate prediction of attrition based on the pre-recruit training measures will be reported.

Multivariate prediction of attrition. Since the variables presented in Tables 9 and 10 are correlated, it is necessary to conduct a multivariate analysis. Such an analysis permits an identification of the linear combination of variables that best predict female recruit training attrition. Further, since this research is based on a conceptual model of the attrition process, it is possible to specify the model and evaluate its generalizability across cohorts. In the present analysis, the multivariate process model is evaluated with the female cohort and compared with multivariate results from the male cohorts previously reported by Youngblood, et al. (1980).

Table 11 present the results of the step wise multiple regression analysis of female recruit attrition. Five variables entered the equation

TABLE 11
FEMALE RECRUIT TRAINING ATTRITION STEPWISE MULTIPLE REGRESSION

Variable	Equation		Step	
	b	B	R	R ²
Leader Consideration	-.008	-.25	.18	.03
Job Autonomy	.97	.22	.23	.08
Skill Variety	-.13	-.23	.32	.11
Growth Need Strength	.09	.17	.37	.14
Intention to Complete Enlistment	.06	.13	.39	.16
Constant	(.79)			

Attrition Coded 1 = completed recruit training; 0 = attrite.

Equation $F(5,151) = 5.55$ ($p < .05$)

Adjusted $R^2 = .13$

Source: M79-11. Non-reservist female recruits who completed pre-recruit training survey with 3 or fewer consistency errors and matched with demographic tape. Casewise deletion used in this analysis.

and resulted in a multiple correlation of .39 (adjusted R^2 = 13 percent). In order of entry, the variables were: expected leader consideration (attrites expected more considerate leaders); expected job autonomy (attrites lower), expected skill variety (attrites higher); growth need strength and intention to complete (attrites lower on both).

The female data also were subjected to a hierarchical regression analysis with the variables entered in four steps based on a priori model of the attrition process (Mobley, et al., 1979). Demographic and personal variables were entered as the first set, the expected job content, leadership, and work group variables as the second set, expected satisfaction and net role force as the third set, and finally intention to complete the enlistment as the final variables. This analysis permits a comparison of the attrition process model results for females with the previously reported analyses for the male cohorts (Youngblood, et al., 1980).

Table 12 presents the results of the hierarchical regression analysis of female attrition. The only set of variables which made a significantly unique contribution was the expected job content, leadership, and work group set. The overall equation was significant at the $p < .10$ level and the adjusted R^2 was seven percent. The significant individual variables were: growth need strength ($p < .10$); skill variety ($p < .05$); autonomy ($p < .05$); and leader consideration ($p < .05$).

When the results of this analysis were compared with the male results (Youngblood, et al., 1980), notable differences in the attrition process model were evident. For the males, the demographic/personal, expected satisfaction/net role force, and behavioral intention step F 's were significant. For the females, only the expected job content, leadership, and work group step F was significant. With respect to individual variables in the total equation, there was no overlap between the males and females in significant

TABLE 12
HIERARCHICAL MULTIPLE REGRESSION OF FEMALE RECRUIT TRAINING
ATTRITION^a ON PRE-RECRUIT TRAINING SURVEY AND
DEMOGRAPHIC VARIABLES

Independent Variable	b	Beta	Step F ^b
SET I			
<u>Demographic/Personal</u>			
Age (years)	-.01	-.04	
Education (years)	.06	.06	
Growth Need Strength	.09*	.17	
Internal Motivation	.09	.15	
Marital Status ^c	-.08	-.04	
Mental Score (AFQT)	-.001	-.04	
Race ^d	-.006	-.01	0.72
SET II			
<u>Job Content</u>			
Skill Variety	-.14**	-.24	
Task Identity	-.02	-.03	
Task Significance	.03	.07	
Autonomy	.11**	.25	
Feedback from Job	-.07	-.12	
Feedback from Others	-.02	-.04	
Dealing with Others	-.03	-.05	
<u>Leadership</u>			
Consideration	-.007**	-.22	
Structure	.001	.02	
<u>Work Group</u>			
Attraction	.003	.01	
Proficiency	-.03	-.10	2.08**
SET III			
<u>Expected Satisfaction</u>	-.05	-.10	
<u>Net Role Force</u>	.009	.05	0.31
SET IV			
<u>Intention to Complete</u>	.06	.15	1.78
Intercept =	.47		
Overall F(21,135) = 1.59*			
R ² = .20, Adjusted R ² = .07			

Source: M79-12. Non-reservist female recruits who completed pre-recruit training survey with 3 or fewer consistency errors and matched with demographic tape.

N = 157 with casewise deletion

^aAttrition coded 1 if non-attrite; 0 if attrite

^bStepwise F is reported for each of the four sets of independent variables. Set I entered first, Set II second, and so forth.

^c1 = married; 0 = not married

^d1 = Caucasian; 0 = non-Caucasian

*p < .10

**p < .05

***p < .01

regression weights.

Thus, with respect to the a priori attrition process model, the males and females appear to be different. It is important to recognize, however, that the male analyses were based on much larger sample sizes, exhibited greater variance in the independent variables, and that the females represent a "higher quality" sample than the males as indexed by education and mental grade.

It is evident from this analysis and the previously summarized bivariate analysis that expected job content factors of skill variety and job autonomy, expected leader consideration, and growth need strength are significant unique contributors to the prediction of female recruit training attrition. The importance of accurate expectations and/or organizational modifications of the job content and leadership variables is clearly suggested. Selection on, and/or development of growth need strength also is suggested.

Reasons For Attrition

The survey given attrites prior to their departure from the Recruit Depot included questions dealing with self-reported reasons for attrition. The mean ratings and rankings for these self-reported reasons for attrition are presented in Table 13. In terms of rank order, the primary reasons for attrition were reported to be:

1. Lack of personal freedom
2. Too much pressure
3. Missed family and friends
4. Rules and regulations too rigid.

These reasons also were among the highest ranked by male cohorts reported earlier (Youngblood, et al., 1980). Rank order correla-

TABLE 13

SELF-REPORTED REASONS FOR RECRUIT TRAINING ATTRITION:
1977 AND 1978 FEMALE COHORTS

35

I am leaving the Marine Corps because of:	Rank	Mean ^a
Physical health reasons.	12	2.59
Mental health reasons.	13.5	2.55
The poorly trained leaders I had.	17	2.05
The inability to make friends with other Marines.	26	1.84
Family problems back home.	8.5	2.64
The lack of personal freedom as a Marine.	1	3.73
Other enlistees picked on me.	29	1.55
I had trouble learning.	13.5	2.55
Inability to complete a training school.	22	1.82
A good job opportunity as a civilian.	15	2.36
Inability to get promoted.	24	1.77
Being a Marine is too physically demanding.	7	2.73
The assignments were too boring.	10	2.46
Superiors treated me unfairly.	8.5	2.64
There was too much pressure on me.	2	3.64
I missed my family/friends back home.	3	3.41
Getting in trouble was the only way I could get out of the Marines	19	1.91
The rules and regulations were too rigid.	4	3.32
There wasn't enough discipline.	27.5	1.59
I want to get married.	11	2.41
I just couldn't stay out of trouble.	22	1.82
A change in my religious values.	19	1.91
Minorities are discriminated against.	16	2.27
I didn't get the location I wanted.	22	1.82
I didn't get the training I wanted.	19	1.91
I got hung up on drugs.	27.5	1.59
I couldn't get along with members of other races.	30	1.46
There were too many "Mickey Mouse" rules and regulations.	5.5	2.96
I was treated like a little child.	5.5	2.96
I couldn't get in the unit I wanted.	25	1.73
N	22	

^aScale = 1, Strongly Disagree to 5, Strongly Agree

Source: 479-7

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tions were computed between reasons given by the female cohort (Table 13) and those previously reported by the male cohorts. The results were:

1977-78 Females vs. 1976 Parris Island Males: $\rho = .91$;
 vs. 1977 Parris Island Males: $\rho = .74$;
 vs. 1977 San Diego Males: $\rho = .74$;
 vs. 1978 San Diego Males: $\rho = .65$.

Thus, the male and female recruit training attrites sampled gave similar self-reported reasons for attrition, especially for the most important reasons.

Table 14 summarizes the reasons for attrition as administratively recorded on the HMC master file. The major reasons were "unsuitability-personality," (36.4%) and "unsuitability-apathy, defective attitude, inability to expend effort constructively," (27.3%). In the male cohorts, previously reported by Youngblood, et al. (1980), "unsuitability-apathy" was a major administrative reason for male recruit attrition at both Parris Island and San Diego and "unsuitability-personality" was a major administrative reason for male recruit attrition at Parris Island.

Pre- and Post-Recruit Training Differences for Graduates

The preceding analyses have dealt with reasons for attrition and with differences between graduates and attrites on the pre-recruit training measures. We now turn our attention to a comparison of the pre- with post-recruit training measures for female graduates. This analysis, presented in Table 15, summarizes the changes in measures for the female graduates who completed both the pre- and post-training measures.

TABLE 14
ADMINISTRATIVELY RECORDED REASONS FOR FEMALE
RECRUIT TRAINING ATTRITION

Reason	N	%
Unsuitability-Personality	8	36.4
Unsuitability-Apathy, Defective Attitude Inability to Expend Effort Constructively	6	27.3
Erroneous Entry	4	18.2
Misconduct-Fraudulent Entry	3	13.6
Recruit Failure Program	<u>1</u>	<u>4.5</u>
TOTAL	22	100.0

Source: M79-7: Non-reservist female recruit who completed attrite survey with three or fewer consistency errors and matched with demographic tape.

TABLE 15
COMPARISON OF PRE AND POST RECRUIT TRAINING MEASURES
FOR FEMALE GRADUATES

VARIABLE	PRE-RECRUIT TRAINING N	PRE-RECRUIT TRAINING MEAN	PRE-RECRUIT TRAINING SD	POST-RECRUIT TRAINING MEAN	POST-RECRUIT TRAINING SD	t ^a	p
<u>Intentions</u>							
To Complete	136	4.58	0.74	4.60	0.76	0.29	ns
To Reenlist	135	3.16	0.89	3.41	0.98	3.27	.01
<u>Expectancy</u>							
Chances of Completing	136	0.88	0.19	0.93	0.17	2.65	.01
Chances of Finding Civilian Job	135	0.43	0.29	0.51	0.29	2.66	.01
<u>Role Attraction, Force</u>							
Marine Role Attraction	137	39.34	17.22	43.58	17.15	2.61	.01
Civilian Role Attraction	137	22.11	12.30	25.34	13.77	3.13	.01
Marine Role Force	136	36.01	18.46	42.17	17.60	3.73	.01
Civilian Role Force	135	10.65	11.11	13.84	13.08	3.22	.01
Difference Role Force	135	25.31	19.70	28.22	18.82	1.64	ns
<u>Leadership (LDQI)</u>							
Leader Consideration	129	43.58	10.44	46.41	10.69	2.86	.01
Leader Structure	131	65.31	6.78	64.63	7.18	-1.16	ns
<u>Job (JDS)</u>							
Skill Variety	135	3.59	0.65	3.33	0.84	-3.37	.01
Task Identity	135	3.34	0.67	3.24	0.66	-1.01	ns
Task Significance	135	3.93	0.78	3.83	0.78	-1.37	ns
Autonomy	135	3.09	0.80	3.05	0.69	-0.54	ns
Feedback From Job	137	3.71	0.68	3.73	0.73	0.26	ns
Feedback From Others	135	3.54	0.80	3.67	0.75	1.81	ns
Dealing With Others	137	4.00	0.61	4.13	0.59	2.30	.03
<u>Satisfaction, Individual Differences</u>							
Satisfaction	134	3.68	0.73	3.71	0.74	-0.44	ns
Internal Motivation	134	4.21	0.63	4.31	0.62	1.65	ns
Growth Need	135	4.16	0.71	4.39	0.60	4.27	.01
<u>Sociometric</u>							
Unit Attraction	136	11.33	1.66	11.22	1.93	-0.64	ns
Unit Proficiency	135	7.33	1.25	7.69	1.21	2.81	.01

Source: W79-8

a) Paired t-tests based on female recruit training graduates who completed both the pre and post training measures with three or fewer consistency errors and matched with the demographic tape.

A number of significant changes were evident. There was a significant increase in intention to reenlist, in chances of completing the enlistment and in perceived chances of finding an acceptable civilian job. Further, there were significant increases in role attraction and role force for both the Marine and civilian roles.

At the end of recruit training, the graduates reported significantly higher leader consideration, dealing with others, and unit proficiency than expected prior to recruit training. However, skill variety was less than expected. Finally, graduates evidenced a significant increase in growth need strength.

When compared with the previously reported male results (Youngblood, et al., 1980), the female and male graduates exhibited consistent changes in intention to reenlist, expectancy of completing the enlistment, chances of finding an acceptable civilian job, increases in Marine role attraction and role force, increases in leader consideration, unit proficiency, and growth need strength. Comparison of changes by male and female graduates on the other variables revealed no consistent pattern.

In interpreting these results, it must be remembered that the post-recruit training measure was given during graduation week and thus may be subject to a generalized graduation euphoria.

Pre- and Out-Placement Differences for Attrites

The final analysis compares the pre-recruit training measure and the out-placement measure for attrites. These comparisons are given in Table 16. Just as the graduate post-training measures may be positively biased, the attrite out-placement measures may be negatively biased even though confidentiality was guaranteed.

TABLE 16
COMPARISON OF PRE-RECRUIT TRAINING AND OUT-PLACEMENT MEASURES
FOR FEMALE ATTRITES

VARIABLE	N	PRE-RECRUIT TRAINING MEAN	SD	OUT-PLACEMENT MEAN	SD	t ^a	p
Expectancy							
Chances of Finding Civilian Job	21	0.42	0.30	0.61	0.27	1.95	.07
Role Attraction, Force							
Marine Role Attraction	21	33.33	15.69	24.71	14.20	-2.36	.03
Civilian Role Attraction	21	20.10	13.35	22.33	9.25	0.91	ns
Marine Role Attraction	21	26.98	18.77	4.83	8.13	-4.71	.01
Civilian Role Attraction	21	10.12	11.83	14.65	10.76	1.45	ns
Difference Role Force	21	16.86	22.57	-9.82	12.85	-4.58	ns
Leadership (LBDQ)							
Leader Consideration	21	47.29	10.85	40.19	13.46	-2.25	.04
Leader Structure	20	62.65	6.79	60.10	8.92	-1.21	ns
Job (JDS)							
Skill Variety	21	3.61	0.63	2.98	0.79	-3.15	.01
Task Identity	21	3.30	0.80	3.00	0.80	-1.40	ns
Task Significance	20	3.77	0.61	3.18	0.93	-2.91	.01
Autonomy	21	2.62	0.75	2.68	1.13	0.23	ns
Feedback From Job	21	3.75	0.46	3.16	0.83	-3.25	.01
Feedback From Others	21	3.48	0.66	3.43	0.87	-0.21	ns
Dealing With Others	21	4.08	0.61	3.84	0.67	-1.52	ns
Satisfaction, Individual Differences							
Satisfaction	20	3.42	0.78	2.93	1.04	-2.61	.02
Internal Motivation	21	3.85	0.59	3.70	0.77	-0.83	ns
Growth Need	21	3.68	0.69	3.75	1.05	0.33	ns
Sociometric							
Unit Attraction	21	10.95	0.36	9.05	2.71	-3.79	.01
Unit Proficiency	21	7.38	1.11	6.67	1.39	-2.43	.03

Source: M79-8

a) Paired t-tests based on female recruit training attrites who completed both the pre- and out-placement measures with three or fewer consistency errors and matched with demographic tape.

The attrites exhibited a sizeable, but marginally significant ($p < .07$) increase in perceived chances of finding an acceptable civilian job, a significant decrease in Marine role attraction and role force, and perceived significantly less leader consideration, skill variety, task significance, feedback from the job, satisfaction, unit attraction, and unit proficiency than expected prior to recruit training.

The female attrite results with respect to changes in expectancy of finding an acceptable civilian job, Marine role attraction, and Marine role force are generally consistent with the previously reported results for male cohorts (Youngblood, et al., 1980). No clear pattern emerges from male-female attrite comparisons on the other variables.

Discussion

The results identified those work role outcomes that female recruits find most and least desirable. When the outcome desirability ratings were combined with role outcome expectancy ratings for military and civilian roles, it was found that the difference in resultant role force (Marine minus civilian) differentiated subsequent graduates from attrites. As in our previous research, behavioral intentions to complete the enlistment, as measured prior to recruit training, significantly differentiated graduates and attrites. Further, subsequent attrites, when compared to graduates, exhibited significantly higher expected leader consideration, lower expected autonomy, and lower growth need strength.

These findings indicate that expectation, behavioral intention, and attitudinal measures, given prior to recruit training, can contribute to

the prediction of female attrition. These findings take on added significance, since the demographic variables did not differentiate subsequent female graduates and attrites, probably due to restriction of range.

By identifying high risk candidates at the recruiting stage, steps could be taken to counsel them prior to enlistment. A realistic job preview (Horner, et al., 1979) may be useful at the recruiting stage as well as at the recruit training stage to create realistic expectations, clarify values, teach coping skills, and provide role models. Further, by identifying high risk recruits after arrival at the Recruit Depot but prior to actual recruit training, it would be possible to intervene with coaching, counseling, and training directed toward increasing intention to complete, expectancy of completing, internal motivation, and role attraction. Recruits identified for such treatment could then be placed in regular platoons for the start of recruit training.

Selection and early intervention strategies such as those suggested above are important. However, it is also important to review recruit outcome preferences, expectations, organizational perceptions and reasons for attrition from the perspective of policy and practice. What changes could be made to enhance Marine role attraction and modify job content, consistent with organizational effectiveness objectives?

With respect to comparison of the female results and the previously reported male results, a number of similarities were observed. The rank order correlations between male and female outcome preferences and self-reported reasons for attrition indicated relative similarity. Bivariate differences between graduates and attrites for intentions to complete,

expectancy of completing, and difference between Marine and civilian role force, were comparable for males and females. However, unlike the males, the demographic variables were not predictive of attrition for females (probably due to relative homogeneity) and the regression model comparisons indicated dissimilarity. For female recruits the job content variables of expected job skill variety and autonomy, expected leader consideration, and growth need strength were particularly salient predictors of attrition in the overall equation.

The low explained variance in turnover was due, in part, to the severe restriction of range in the turnover criterion (base rate of 14.8%) and to the relatively low reliability and variance for some of the pre-recruit training measures. The relatively low R^2 should not, however, preclude using the data to develop counter-attrition strategies for experimental evaluation. Given the importance of the attrition problem in terms of the previously discussed decreasing recruiting population and cost of attrition, the utility of evaluating such counter-attrition strategies is warranted. Our final report, to be issued later this year, will suggest a number of possible counter attrition strategies.

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